LANDSAT MONTHLY UPDATE

March 2003

The Landsat Program is managed by the U.S. Geological Survey under authority established by Presidential Decision Directive NSTC-3.

Fourth Anniversary

April 15, 2000, marks the fourth anniversary of Landsat 7 on-orbit operations. The USGS and NASA take great pride in the success of the Landsat 7 mission. The Landsat 7 satellite has performed flawlessly and provides the highest quality, best characterized data in the 30-year Landsat data acquisition history.

The U.S. archive of Landsat 7 data contains a wealth of cloud-free land observations, with over 30 percent of the more than 300,000 archived scenes having less than 10 percent cloud cover. The extensive network of Landsat International Cooperator stations has augmented the global archive of Landsat 7 data with a great depth of unique coverage over their individual geographic regions. Over the last four years, the U.S. Landsat project has produced and distributed over 55,000 scenes for the Landsat user community. For the first time in Landsat history the network of stations producing Landsat products provides data in both unique and common formats. The common formats are validated twice per year to ensure that a Landsat user anywhere in the world can acquire Landsat 7 data in a common format from multiple receiving stations.

The Landsat 7 mission has been an enormous success because of the tireless effort of many dedicated individuals. To the many people in the U. S. and around the world who work on the Landsat 7 mission and infuse it with their passion for excellence, we say thank you. May we all look forward to many more years of Landsat 7 operations.

Tracy Zeiler, Landsat Project Chief

Program News

IGS Metadata

IGS metadata from Argentina, Australia, Brazil, Canada, China, Europe, and South Africa continue to be archived successfully. Hatoyama, Japan (HAJ) resumed sending metadata to EDC in early March. Bangkok, Thailand is expected to resume sending metadata to EDC very soon. As of March 31, 2003 there were 18,468 L7 IGS subintervals archived for 288,338 Landsat 7 Worldwide Reference System (WRS) scenes. Italy finished sending EDC their backlogs from FUI and MTI. Sweden (KIS), Brazil (CUB), and Japan (HAJ) are in the process of doing the same.

Landsat 5 Mission Operations Center

The Landsat 5 Mission Operations Center Contractor transition is proceeding on schedule. Effective April 1, 2003, Computer Sciences Corporation will assume the daily operational responsibility for the Landsat 5 satellite and Space Imaging operational support will conclude. The USGS wishes to thank Space Imaging for the service and support they have provided during the continuing mission of the Landsat 5 satellite.

Landsat 7 Introduces Automated Operatins to the bMOC

In March, the Landsat team implemented the Landsat 7 On-Orbit Flight Automation (LOOFA) system in the backup Mission Operations Center (bMOC). Ever since USGS assumed program management in late 2000, LOOFA has been successfully "flying" Landsat 7 in the primary MOC fourteen hours of every day, monitoring spacecraft and ground systems status and paging Flight Ops personnel when problems arise. Automated operations in the bMOC avoid the costs of staffing the bMOC 24x7 in the event of an operations transfer, and greatly enhances the programs' ability to respond to a contingency situation.

Landsat 7 Flight Ops Responds to Increased Homeland Security Alert Level

Landsat 7 Flight Operations enhanced its readiness to respond to an emergency by expanding its procedures to escalate a problem or threat to USGS flight operations capability at Goddard Space Flight Center. As the war in Iraq became imminent, Landsat 7 Flight Operations put in place additional procedures to alleviate potential confusion that could arise from the loss of communications at GSFC or in the local area. In addition, Flight Operations conducted its first rehearsal to simulate a loss of functionality in the MOC that would warrant the transfer of operations to the backup MOC. This is the first part of an on-going plan to rehearse failure scenarios at all levels to maintain the team's readiness and exercise the bMOC to ensure seamless Landsat 7 image acquisition.

Technical News

Data Validation

During the month of March, the Japan (Hiroshima) station provided the USGS with RCC data for the biannual revalidation. The RCC data from Hiroshima was found to be of equivalent quality to the

corresponding USGS data, and the revalidation was a success. Also, the Australian stations (Alice Springs and Hobart), the Canadian stations (Gatineau and Prince Albert), and the Beijing China station all provided the USGS with L0Rp data for biannual revalidations. All L0Rp data revalidations were successful.

Testing of the IGSs L1 Products and the validation techniques continue. Eight of the eleven L1 products received from the IGS have been analyzed for conformance to the product format and specifications document. These data are also compared to the corresponding USGS L1 product. Use of these IGS data for testing of the procedures and methodologies has been of tremendous value for these initial L1 product validations. All of the IGS are being notified of these results as these preliminary validations are completed.

Landsat 5

Landsat 5 is being successfully maintained within plus/minus 3 km of the nominal WRS. This tolerance is a reduction of plus/minus 6 km, historically set for Landsat 5.

Landsat Documentation

Recently two documents have been updated by the Landsat team at the USGS EDC. The Landsat 7 Data Quality Validation Plan changes reflect the new document template, new approved media options, and changes made to the RCC data flow since the accomplishment of the re-engineering. Changes to the Landsat 7 Data Exchange Implementation Plan update include the use of the new document template. The majority of the changes made were necessary to reflect better sentence structure and word usage.

Revision F of the Landsat 7 to IGS ICD was published in January 2003. Updates include further details on the IGS Priority/Service Request Map Editor (IPM) online tool, and new online locations for the reference documents. Revision A of the Landsat 7 to IGS OA was published in March 2003. This was the first update since launch of the satellite, and revisions were major in order to bring the document into line with current operations. Both documents are available at the IGS web site: http://landsat7.usgs.gov/igsdocs.html.

The IGS Priority & Service Request Mask Editor (IPM) online tool is ready for operational use. Tutorials on how to use the tool have been posted at the IGS web site: http://landsat7.usgs.gov/igsdocs.html. Testing was successfully completed in February with Australia, and in March/April with China, on use of the IPM to submit both priorities and service requests. Testing will begin soon with ESA on the manual submission of both priorities and service requests using the Priority/Service Request Mask (PSR) file. Testing will continue with the rest of the stations, a few at a time, over the coming year. Stations are encouraged to contact the MOC mission planners at L7MPT@LISTSERV.GSFC.NASA.GOV with dates that are convenient to them for testing and transition to the IPM for priority mask and service request submission.

Meetings

LTWG-13

This month, in light of the recent increase in world tensions, the Landsat project reluctantly decided that it was in the best interest of all participants that LTWG-13 be cancelled. There was no specific cause for the cancellation - more a preponderance of smaller concerns that led to the conclusion that the benefits of holding the meeting did not justify the resulting anxiety to those traveling and their families. It was decided to cancel rather than postpone the meeting, as it is unclear when the situation in Iraq will conclude and world tensions subside. As such, the next meeting is scheduled to be the Landsat Ground Station Operator's Working Group (LGSOWG) to be held in Hiroshima, Japan in early October 2003. The Landsat Project extends sincere thanks to our friends at CONAE for all the effort expended in preparation for LTWG-13. It is our sincere hope to hold the next LTWG in Argentina if circumstances allow.

The Landsat monthly update is an informal communication tool, prepared monthly and distributed electronically to USGS Landsat partners, to provide information about Landsat activities and related topics of interest. If you have any ideas, comments, corrections, or successes you would like to share with the Landsat community, please contact Ronald Beck, USGS Landsat team, at the following e-mail address: beck@usgs.gov.

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